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09/579,670	05/26/2000	Miles Aram de Forest	DG-663	3652

7590 01/12/2004  
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66 Blanford Place  
Bedford, NH 03110

EXAMINER
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MASKULINSKI, MICHAEL C

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/579,670

Applicant(s)

DE FOREST ET AL.

Examiner

Michael C Maskulinski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

**Final Rejection**

***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 3, 5, 9, 11, 13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Rastogi et al., U.S. Patent 6,205,449.

Referring to claims 1, 3, 5, 9, 11, 13, and 15:

- a. In column 3, lines 8-21 and in Figure 1, Rastogi et al. teach a storage sub-system and a first and second control/processing sub-systems, each including a file system processor performing file transaction operations in response to client requests directed to the first and second control/processing sub-systems and controlling file storage operations of the storage sub-system.
- b. In column 3, lines 23-35 and in Figure 1, Rastogi et al. teach a state machine logging mechanism.
- c. In column 3, lines 23-57, Rastogi et al. teach a state machine log generator for extracting state machine information defining at least one state machine during an execution of an operation, the at least one state machine representing a current state of execution of a file transaction of the corresponding control/processing sub-system.
- d. Although, Rastogi et al. don't explicitly teach a state machine that is comprised of state information including control and data values representing a state of operation of the control/processing sub-system at a given time, having

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state information including control and data values is inherent to the system of Rastogi et al. This is evident in column 3, lines 11-12 where Rastogi et al. disclose a secondary system, which is run in parallel with a primary system. Further, in column 3, lines 36-42, Rastogi et al. disclose that the second system is synchronized with the primary system, for example, via log records communicated through the network from the primary system to the secondary system, and is thus available to take over processing immediately if the primary system fails or is disconnected. As can be seen the second system has to know the control and data values in order to immediately takeover for the primary system.

e. In column 3, lines 35-61, Rastogi et al. teach that the log generator is responsive to the restoration of operation after a failure of the corresponding control/processing sub-system for reading the information from the log and restoring the state of execution of a file transaction of the corresponding control/processing sub-system.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 2, 4, 6, 8, 10, 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rastogi et al., U.S. Patent 6,205,449.

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Referring to claims 2, 4, 6, 8, 10, 12, 14, and 16, Rastogi et al. teach a back-up mechanism responsive to the restoration of operation of the other control/processing sub-system after a failure of the other control/processing subsystem for reading the information from the log back-up mechanism to the other control/processing sub-system (see column 3, line 48 through column 4, line 59). However Rastogi et al. don't explicitly teach that the back-up is receiving and storing mirror copies of the state machine information. It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have Rastogi et al. send and receive mirror copies to back up the log records because a mirror is defined as a duplicate set of files (Microsoft Press Computer Dictionary: Third Edition) and Rastogi et al. could copy all of the log as it is at least a portion of the log records (see column 2, lines 33-35) because full recovery in the event of a failure is what Rastogi et al. intend (see column 2, lines 43-44). By fully providing copies of the log to the secondary system (see column 3, lines 47-57) Rastogi et al. would be sending and receiving mirror copies. This would have motivated one of ordinary skill in the art to implement a mirroring system in Rastogi et al. for the advantages set forth above.

### ***Response to Arguments***

5. Applicant's arguments filed December 1, 2003 have been fully considered but they are not persuasive.

6. On pages 17-18, under the section REMARKS, the Applicant argues, "the primary and secondary computer systems of the Rastogi et al. '449 system do not correspond either structurally or functionally with the dual control/processing sub-

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systems of the present invention. That is, the two computer systems of the Rastogi et al. '449 system are not parallel, cooperating sub-systems within a system, but are completely and separate computer systems." The Examiner respectfully disagrees. Upon examination of the claims, there is **no** language indicating that the control/processing sub-systems are parallel, cooperating sub-systems. Further, there is no mention that they are dual sub-systems or that they are operating concurrently. If this is what the Applicant intended, it is encouraged that language explicitly stating this be placed in the claim language of the respective claims. The Examiner maintains that the reference Rastogi et al., U.S. Patent 6,205,449, teaches the Applicants claimed invention.

7. On page 18, under the section REMARKS, the Applicant argues, "the primary and secondary computer systems of the Rastogi et al. '449 system do not correspond either structurally or functionally with the state machine logging mechanism and state machine log mirroring mechanism of the present invention as each of the primary and secondary computer systems of the Rastogi et al. '449 system are a full function, general purpose computer capable of performing both transaction operations and transaction logging. In contrast, the state machine logging mechanism and state machine log mirroring mechanism of the present invention are both dedicated purpose, specialized function mechanisms that are structurally and functionally different from one another and are directed to separate and distinctly different functions." The Examiner respectfully disagrees. In Figure 1, Rastogi et al. disclose a transaction processor and a transaction logger that are structurally and functionally separate.

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8. On pages 18-19, under the section REMARKS, the Applicant argues, "a control/processing sub-system and its associated state machine logging mechanism with the associated state machine logging mechanism with the associated state machine log mirroring mechanism cannot be compared, structurally or functionally, with the primary and secondary computer systems of the Rastogi et al. '449 system because the primary and secondary computer systems of the Rastogi et al. '449 system are in fact identical but completely separate and independent systems from one another. In contrast, the state machine log mirroring mechanism is functionally an integral element of the corresponding state machine logging mechanism, even though the state machine log mirroring system resides separately from the state machine logging mechanism so as not to be involved in a failure of the corresponding control/processing sub-system with which the state machine log generator and log reside." The Examiner respectfully disagrees for at least the reasons above in paragraph 6. Further, in Figure 1, Rastogi et al. disclose that the transaction processor (control/processing subsystem) and transaction logger (state machine mirroring mechanism) are located separately. Still further, in column 3, lines 22-56, Rastogi et al. disclose that the mirror is on the second system, which is separate from the first system (control/processing subsystem).

9. On page 19, under the section REMARKS, with regards to the argument that Rastogi et al. '449 do not teach generating or capturing several state machine information records during the execution of a transaction or operation, and generate or capture each state machine concurrently with and during the execution of the

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transaction of operation, the Examiner would like to note that this limitation has not been claimed and therefore will not be addressed.

10. On page 19, under the section REMARKS, the Applicant argues, "In fundamental contrast from the present invention, the Rastogi et al. '449 system captures or generates only transaction records, that is, a record of a completed transaction at the conclusion of the transaction, and actually records, or stores, a transaction record only when the record is transferred into mass storage. In a like manner, the copy of a transaction record is transmitted to and stored in the secondary computer system only when the record is transferred to the primary system mass storage." The Examiner respectfully disagrees and requests that the Applicant provide the Examiner with the column and lines stating this. Upon examination of the Rastogi et al. '449 patent, the Examiner found that the purpose of the invention is to provide an immediate failover system. The system of Rastogi et al. will not work if the only transactions being logged are those that are completed. The secondary system has to know what transaction is currently being executed.

11. On page 20, under the section REMARKS, the Applicant argues, "In fundamental contrast from the present invention, the Rastogi et al. '449 system captures or generates only transaction records, that is, the data comprising a record of a completed transaction, which has no relationship to control and data values representing the operating state of a system of operation at a given time. The difference is analogous to the difference between an entry in a checkbook and an operation record of the control and data values in an accounting computer system." The Examiner respectfully



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disagrees for at least the reasons in paragraph 10. Further, although, Rastogi et al. don't explicitly teach a state machine that is comprised of state information including control and data values representing a state of operation of the control/processing sub-system at a given time, having state information including control and data values is inherent to the system of Rastogi et al. This is evident in column 3, lines 11-12 where Rastogi et al. disclose a secondary system, which is run in parallel with a primary system. Further, in column 3, lines 36-42, Rastogi et al. disclose that the second system is synchronized with the primary system, for example, via log records communicated through the network from the primary system to the secondary system, and is thus available to take over processing immediately if the primary system fails or is disconnected. As can be seen the second system has to know the control and data values in order to immediately takeover for the primary system.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

MM

  
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